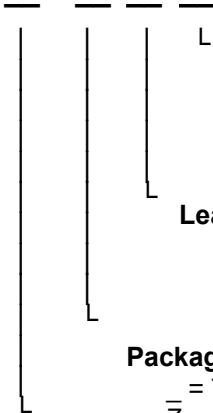


**Solid State Devices, Inc.**

14701 Firestone Blvd * La Mirada, CA 90638
 Phone: (562) 404-4474 * Fax: (562) 404-1773
 ssdi@ssdi-power.com * www.ssdi-power.com

Designer's Data Sheet**Part Number/Ordering Information ^{1/}****1N66****Screening ^{2/}**

— = Not Screened
 TX = TX Level
 TXV = TXV Level
 S = S Level

Lead Bend Options

— = Straight Leads
 DB = Down Bend
 UB = Up Bend

Package

— = TO-254
 Z = TO-254Z

Family/Voltage

57 = 100V
 58 = 150V
 59 = 200V

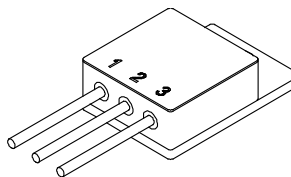
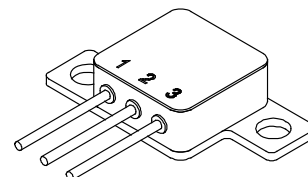
1N6657 thru 1N6659**40 AMP****HYPER FAST COMMON CATHODE
CENTERTAP RECTIFIER****100 - 200 VOLTS****35 nsec****FEATURES:**

- Replaces two 1N5816 devices
- Hyperfast recovery: 35 nsec maximum
- High surge rating
- Low reverse leakage current
- Low junction capacitance
- Gold eutectic die attach available
- Ultrasonic aluminum wire bonds
- Ceramic seals available
- Available in TO-254Z (specify Z suffix)
- Available in common anode and doubler versions:
 1N6657R – 1N6659R – Common Anode
 1N6657D – 1N6659D – Doubler
- TX, TXV, or S level screening available

Maximum Ratings		Symbol	Value	Units
Peak Repetitive Reverse and DC Blocking Voltage ^{3/}	1N6657	V_{RRM}	100	V
	1N6658	V_{RWM}	150	
	1N6659	V_R	200	
Average Rectified Forward Current ^{4/} (Resistive load, 60 Hz sine wave, $T_A = 25^\circ\text{C}$)		I_O	40	A
Peak Surge Current (8.3 ms pulse, half sine wave, $T_A = 25^\circ\text{C}$, per leg)		I_{FSM}	300	A
Operating & Storage Temperature		$T_{OP} \text{ \& } T_{STG}$	-65 to +200	$^\circ\text{C}$
Maximum Thermal Resistance	Junction to Case, each individual diode Junction to Case ^{4/}	$R_{\theta JC}$	2.3	$^\circ\text{C/W}$
			1.2	

NOTES:

- ^{1/} For ordering information, price, and availability, contact factory.
^{2/} Screening based on MIL-PRF-19500. Screening flows available on request.
^{3/} Higher voltages available.
^{4/} Both legs tied together.

TO-254**TO-254Z**

NOTE: All specifications are subject to change without notification.
 SCD's for these devices should be reviewed by SSDI prior to release.

DATA SHEET #: RH0059B**DOC**



Solid State Devices, Inc.

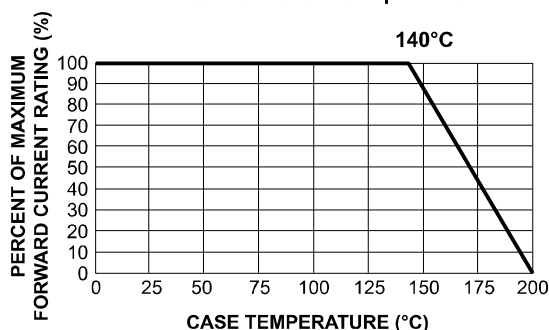
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1N6657 thru 1N6659

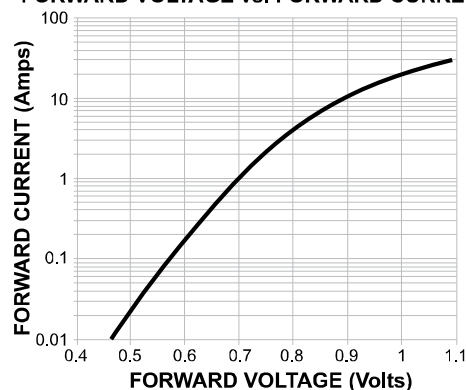
Electrical Characteristic (Per Leg)		Symbol	Max	Units
Instantaneous Forward Voltage Drop ($T_A = 25^\circ\text{C}$, 300 μsec pulse)	$I_F = 10\text{ A}$	V_{F1}	1.0	V
	$I_F = 20\text{ A}$	V_{F2}	1.2	V
Instantaneous Forward Voltage Drop ($I_F = 10\text{ A}$, 300 μsec pulse)	$T_A = 100^\circ\text{C}$	V_{F3}	0.83	V
	$T_A = -65^\circ\text{C}$	V_{F4}	1.15	V
Reverse Leakage Current (Rated V_R , 300 μs pulse min.)	$T_A = 25^\circ\text{C}$	I_{R1}	10	μA
	$T_A = 100^\circ\text{C}$	I_{R2}	1	mA
Reverse Recovery Time ($I_F = 1\text{ A}$, $I_R = 1\text{ A}$, $I_{RR} = 100\text{ mA}$, $T_A = 25^\circ\text{C}$)		t_{RR}	35	nsec
Junction Capacitance ($T_A = 25^\circ\text{C}$, $f = 1\text{ MHz}$)	$V_R = 10\text{ V}_{DC}$	C_J	150	pF

TYPICAL OPERATING CURVES

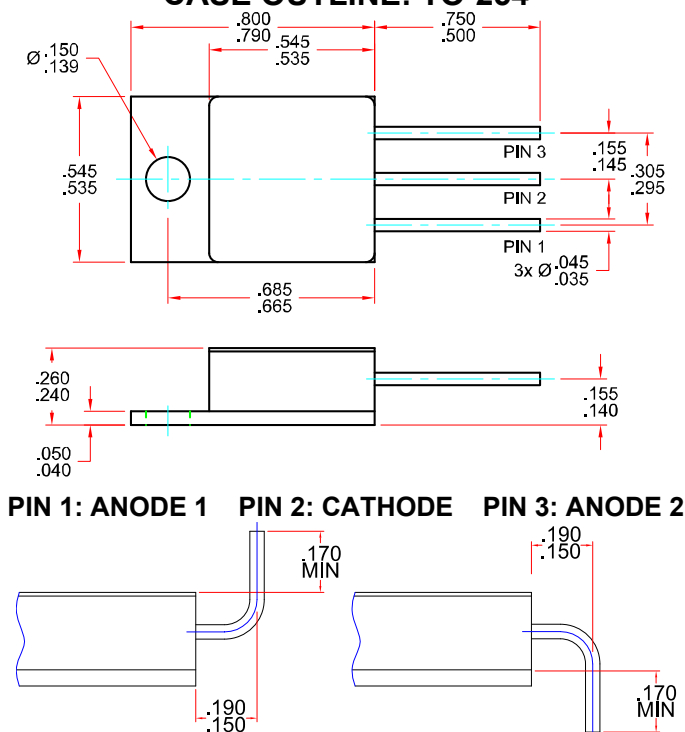
$T_A = 25^\circ\text{C}$ unless otherwise specified



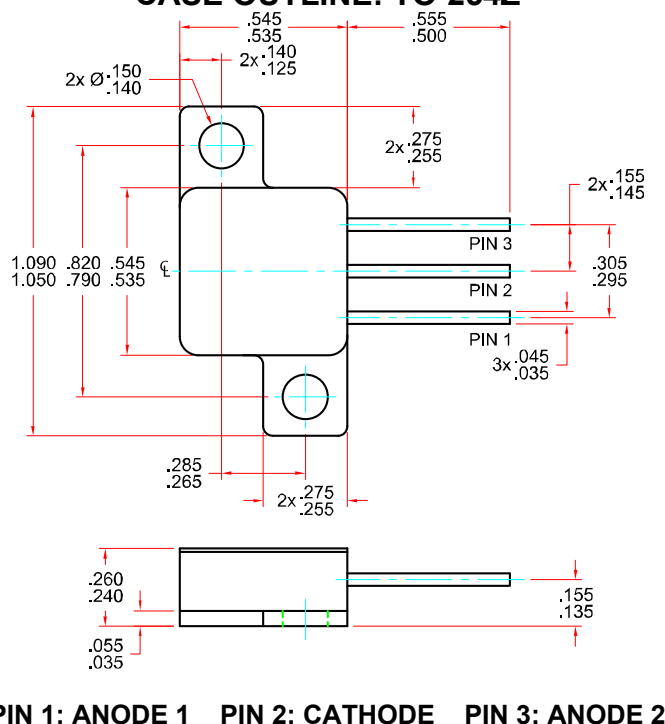
FORWARD VOLTAGE vs. FORWARD CURRENT



CASE OUTLINE: TO-254



CASE OUTLINE: TO-254Z



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